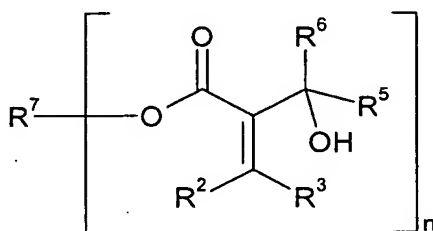


Claims

1. A coating composition comprising
 - at least one α -(1'-hydroxyalkyl)acrylate (A) and
 - at least one photoinitiator (P).
2. The coating composition according to claim 1, further comprising
 - at least one reactive diluent and/or
 - at least one polyfunctional polymerizable compound.
3. The coating composition according to claim 1 or 2, further comprising
 - at least one compound (B) containing at least one hydroxy (-OH)-reactive group.
4. A method of coating substrates, wherein a coating composition according to any one of claims 1 to 3 is used.
5. A substrate coated with a coating composition according to any one of claims 1 to 3.
6. A compound of the formula (V),



(V)

in which

R^2 and R^3 independently of one another are C_1 - C_{18} alkyl, C_2 - C_{18} alkyl optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, C_2 - C_{18} alkenyl, C_6 - C_{12} aryl, C_5 - C_{12} cycloalkyl or a five- to six-membered oxygen-, nitrogen- and/or sulfur-containing heterocycle, it being possible for each of the stated radicals to be substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles,

R^2 and/or R^3 are/is additionally hydrogen, C_1 - C_{18} alkoxy optionally substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles, or $-\text{COOR}^4$,

R^2 may additionally together with R^1 form a ring, in which case R^2 can be a carbonyl group, so that the group COOR^1 and R^2 together form an acid anhydride group $-(\text{CO})-\text{O}-(\text{CO})-$,

5 R^4 is C_1-C_{18} alkyl, C_2-C_{18} alkyl optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, C_2-C_{18} alkenyl, C_6-C_{12} aryl, C_5-C_{12} cycloalkyl or a five- to six-membered oxygen-, nitrogen- and/or sulfur-containing heterocycle, it being possible for each of the stated radicals to be substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles,

15 R^5 and R^6 independently of one another are hydrogen, C_1-C_{18} alkyl, C_2-C_{18} alkyl optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, C_2-C_{18} alkenyl, C_6-C_{12} aryl, C_5-C_{12} cycloalkyl or a five- to six-membered oxygen-, nitrogen- and/or sulfur-containing heterocycle, it being possible for each of the stated radicals to be substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles, or may together form a ring,

20 n is a positive integer from 3 to 10, and

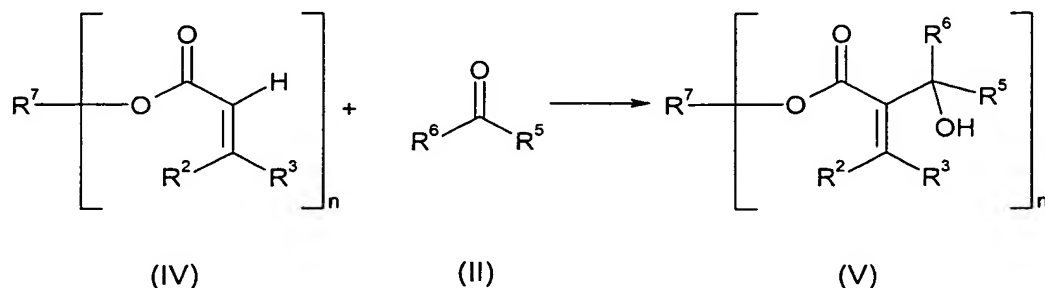
R^7 is an n -valent organic radical having 1 to 50 carbon atoms which can be unsubstituted or substituted by halogen, C_1-C_8 alkyl, C_2-C_8 alkenyl, carboxyl, carboxy- C_1-C_8 alkyl, C_1-C_{20} acyl, C_1-C_8 alkoxy, C_6-C_{12} aryl, hydroxyl or hydroxy-substituted C_1-C_8 alkyl and/or can contain one or more $-(\text{CO})-$, $-\text{O}(\text{CO})\text{O}-$, $-(\text{NH})(\text{CO})\text{O}-$, $-\text{O}(\text{CO})(\text{NH})-$, $-\text{O}(\text{CO})-$ or $-(\text{CO})\text{O}-$ groups.

7. The compound according to claim 6, wherein n is 3 or 4 and

30 R^7 is derived from an n -hydric alcohol by removing n hydroxyl groups,

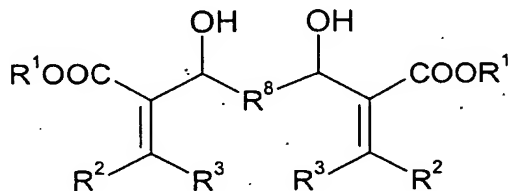
the n -hydric alcohol being trimethylolpropane, pentaerythritol or a singly to virgintuply ethoxylated trimethylolpropane.

35 8. A process for preparing a compound of the formula (V)



as defined in claim 6, it being possible for n to be additionally 2, wherein the compound (II) is an aldehyde $R^5\text{-CHO}$ and is used in free form so that in formal of the formula $(R^5\text{-CHO})_w$, in which w is a positive integer, w is ≤ 20 .

- 5 9. The use of α -(1'-hydroxyalkyl)acrylates in coating compositions for dual-cure applications.
10. The use of compounds of the formula (V) as defined in claim 8 or (VII)



(VII)

in which R^2 and R^3 are as defined in claim 6,

R^1 is $C_1\text{--}C_{18}$ alkyl, $C_2\text{--}C_{18}$ alkyl optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, $C_2\text{--}C_{18}$ alkenyl, $C_6\text{--}C_{12}$ aryl, $C_5\text{--}C_{12}$ cycloalkyl or a five- to six-membered oxygen-, nitrogen- and/or sulfur-containing heterocycle, it being possible for each of the stated radicals to be substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles, and

R^8 is unsubstituted or halogen-, $C_1\text{--}C_8$ alkyl-, $C_2\text{--}C_8$ alkenyl-, carboxyl-, carboxy- $C_1\text{--}C_8$ alkyl-, $C_1\text{--}C_{20}$ acyl-, $C_1\text{--}C_8$ alkoxy-, $C_6\text{--}C_{12}$ aryl-, hydroxyl- or hydroxy-substituted $C_1\text{--}C_8$ alkyl-substituted $C_6\text{--}C_{12}$ arylene, $C_3\text{--}C_{12}$ cycloalkylene or $C_1\text{--}C_{20}$ alkylene or is $C_2\text{--}C_{20}$ alkylene interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups and/or by one or more -(CO)- , -O(CO)O- , -(NH)(CO)O- , -O(CO)(NH)- , -O(CO)- or -(CO)O- groups or is a single bond

in radiation curing.